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ROHM AND HAAS COMPANY		
PATENT DEPARTMENT		
100 INDEPENDENCE MALL WEST		
PHILADELPHIA, PA 19106-2399		

EXAMINER	
SHOSHO, CALLIE E	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/730,353	Applicant(s) BROWN ET AL.	
	Examiner Callie E. Shosho	Art Unit 1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 8-10, 18 and 19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 8-10, 18 and 19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/1/07 has been entered.

2. It is noted that the double patenting rejections of record set forth in paragraphs 4-5 of the office action mailed 12/1/06 utilize copending 10/642,791. It is noted, however, that this copending application has now issued as a patent, namely, U.S. 7,179,531.

Thus, the double patenting rejection of record is re-stated below that refers to the US patent not the copending application. It is noted that the rejection is identical to that previously set forth with the exception that the claims are no longer provisionally rejected but rejected and the rejection itself refers to the US patent and not the copending application.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection

is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1-4, 6, 8-10, and 18-19 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of Brown et al. (U.S. Patent No. 7,179,531) in view of Dersch et al. (U.S. 6,492,451)

Brown et al. discloses polymer composition comprising multistage polymer particles comprising first polymer comprising polymerized unit of multiethylenically unsaturated

monomer and at least one pendant absorbing group of phosphorous acid wherein the first polymer has a glass transition temperature (T_g) of from -60°C to 35°C and a second polymer having a glass transition temperature of from -60°C to 35°C wherein the second polymer is substantially free of the at least one pendant absorbing group. It is also disclosed that the average weight ratio of the first polymer to the second polymer is in the range of from 1:2 to 1:20.

The difference between Brown et al. and the present claimed invention is the requirement in the claims (a) organic colorant, (b) that the first polymer comprises polymerized units of phosphorous acid monomer, (c) that the polymer particles are prepared by aqueous emulsion polymerization of phosphorous acid monomer at pH less than 2 and/or the polymer composition comprises level of water-soluble polymer having second phosphorous acid groups defined by ratios of equivalents of second phosphorous acid groups to equivalents of first phosphorous acid groups in the range of less than or equal to 1.5, (d) of white pigment as well as amounts of white pigment and polymer particles, and (e) of ink jet ink (claim 10).

With respect to difference (a), Dersch et al., which is drawn to pigmented coating composition comprising polymer particles comprised of polymerized units of phosphorous acid monomer and having first phosphorous acid groups, disclose the use of colored organic pigment in order to adjust the hiding power, the shade, and the depth of color of the composition (col.10, lines 11-16). It would have been within the skill level of, as well as obvious to, one of ordinary skill in the art to choose amounts of colored organic pigment depending on the desired hiding power, shade and color depth of the composition.

In light of the above, it therefore would have been obvious to one of ordinary skill in the art to use colored organic pigment in Brown et al. in order to produce ink with desired hiding powder, shade, and depth, and thereby arrive at the claimed invention.

With respect to difference (b), it is noted that the present claims require multistage polymer particles wherein the first polymer comprises polymerized units of phosphorous acid monomer while Brown et al. discloses multistage polymer particles wherein the first polymer comprises at least one pendant absorbing group including phosphorous acid groups.

Applicants' attention is drawn to MPEP 804 where it is disclosed that "the specification can always be used as a dictionary to learn the meaning of a term in a patent claim." *In re Boylan*, 392 F.2d 1017, 157 USPQ 370 (CCPA 1968). Further, those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in an application defines an obvious variation of an invention claimed in the patent. (underlining added by examiner for emphasis) *In re Vogel*, 422 F.2d 438, 164 USPQ 619, 622 (CCPA 1970).

Consistent with the above underlined portion of the MPEP citation, attention is drawn to page 12, lines 43-44 of Brown et al. that discloses that phosphorous acid absorbing groups are incorporated into the first polymer by polymerization of phosphorous acid monomer.

In light of the above, it is clear that the multistage polymer particles of Brown et al. do in fact comprise polymerized units of phosphorous acid monomer and thus, one of ordinary skill in the art would have arrived at the claimed invention from the copending one.

With respect to difference (c), applicants' attention is drawn to MPEP 804 where it is disclosed that "the specification can always be used as a dictionary to learn the meaning of a

term in a patent claim.” *In re Boylan*, 392 F.2d 1017, 157 USPQ 370 (CCPA 1968). Further, those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in an application defines an obvious variation of an invention claimed in the patent (underlining added by examiner for emphasis) *In re Vogel*, 422 F.2d 438, 164 USPQ 619,622 (CCPA 1970).

Consistent with the above underlined portion of the MPEP citation, attention is drawn to page 15, lines 17-36, page 15, line 42-page 16, line 9, page 16, lines 24-56, and page 17, lines 12-41 of Brown et al. which disclose that the polymer particles are produced using aqueous emulsion polymerization at pH less than 2 in order to minimize formation of water-soluble polymer which prevents flocculation of pigment in the composition. It is disclosed that the aqueous composition is substantially free of water-soluble polymer having second phosphorous acid groups which refers to levels of water-soluble polymer having second phosphorous acid groups defined by ratios of equivalents of second phosphorous acid groups to equivalents of first phosphorous acid groups in the range of less than or equal to 1.5.

In light of the above, it therefore would have been obvious to one of ordinary skill in the art to produce the polymer particles of Brown et al. using aqueous emulsion polymerization at pH less than 2 in order to minimize formation of water-soluble polymer and thus prevent flocculation of pigment present in the composition, and thereby arrive at the claimed invention from the copending one.

With respect to difference (d), applicants’ attention is drawn to MPEP 804 where it is disclosed that “the specification can always be used as a dictionary to learn the meaning of a term in a patent claim.” *In re Boylan*, 392 F.2d 1017, 157 USPQ 370 (CCPA 1968). Further,

those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in an application defines an obvious variation of an invention claimed in the patent. (underlining added by examiner for emphasis) *In re Vogel*, 422 F.2d 438, 164 USPQ 619, 622 (CCPA 1970).

Consistent with the above underlined portion of the MPEP citation, attention is drawn to page 1, lines 23-50, page 2, lines 39-52, page 9, lines 5-24, page 18, lines 3-11 and 55-65, and page 26, line 25 of Brown et al. which disclose the use white pigment in order to produce composition with desired hiding power and the use of multistage polymer particles in order to produce composition with good film properties, hiding power, and gloss.

In light of the above, it therefore would have been obvious to one of ordinary skill in the art to use white pigment in the composition of Brown et al. well as to use white pigment and multistage polymer particles in amounts, including those presently claimed, in order to produce composition with good hiding power, gloss, and film properties, and thereby arrive at the claimed invention from the copending one.

With respect to difference (e), it is noted that there is no disclosure in Brown et al. that the polymer composition is an ink jet ink as presently claimed. However, applicants attention is drawn to MPEP 2111.02 which states that "if the body of a claim fully and intrinsically sets forth all the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of the invention, rather than any distinct definition of any of the claimed invention's limitations, then the preamble is not considered a limitation and is of no significance to claim construction". Further, MPEP 2111.02 states that statements in the preamble reciting the purpose or intended use of the claimed invention must be evaluated to determine whether the

purpose or intended use results in a structural difference between the claimed invention and the prior art. Only if such structural difference exists, does the recitation serve to limit the claim. If the prior art structure is capable of performing the intended use, then it meets the claim.

It is the examiner's position that the preamble does not state any distinct definition of any of the claimed invention's limitations and further that the purpose or intended use, i.e. ink jet ink, recited in the present claim does not result in a structural difference between the presently claimed invention and the prior art composition. Given that, as discussed above, Brown et al. disclose composition as presently claimed, i.e. comprising multistage polymer particles and colorant, it is clear that the composition of Brown et al. would be capable of performing the intended use, i.e. ink jet ink, presently claimed as required in the above cited portion of the MPEP, and thus, one of ordinary skill in the art would have arrived at the claimed invention.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Art Unit: 1714

6. Claim 18 is rejected under 35 U.S.C. 102(b) as being anticipated by Ma et al. (U.S. 6,247,808).

Ma et al. disclose ink jet ink comprising organic pigment and polymer having first phosphorous acid groups obtained from monomer such as vinyl phosphonic acid (col.4, lines 25-30 and 49-54, col.6, lines 29-30 and 42-46, and col.8, lines 12-16 and 44). It is noted that there is no disclosure in Ma et al. of water-soluble polymer having second phosphorous acid groups and thus, clearly the ratio of equivalents of second phosphorous acid groups to equivalents of first phosphorous acid groups is less than 1.5 as presently claimed.

In light of the above, it is clear that Ma et al. anticipate the present claims.

7. Claims 18-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Dersch et al. (U.S. 6,492,451).

Dersch et al. disclose pigmented coating composition comprising organic pigment and polymer particles comprised of polymerized units of phosphorous acid monomer and having first phosphorous acid groups wherein the polymer possesses glass transition temperature of -60 to 80 °C (col.1, lines 4-7, col.2, lines 30-36, col.3, lines 1-5 and 59-64, col.9, lines 35-63, col.10, lines 1-16, and col.11, lines 57-67). It is noted that there is no disclosure in Dersch et al. of water-soluble polymer having second phosphorous acid groups and thus, clearly the ratio of equivalents of second phosphorous acid groups to equivalents of first phosphorous acid groups is less than 1.5 as presently claimed.

In light of the above, it is clear that Dersch et al. anticipate the present claims.

8. Claims 1-4, 6, 8-10, and 18-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Edwards et al. (U.S. 7,101,921).

Edwards et al. disclose polymer composition comprising 0-85 vol.% pigment including organic pigment and inorganic pigment, water-soluble polymer such as polyacrylic acid, and 10-70 wt.% core-shell polymer comprising 10-70% first polymer that is obtained from 85-99.9% co-monomer, 0.1-5% anionic monomer that is phosphorous acid monomer, and 0.1-10% multiethylenically unsaturated monomer and possessing glass transition temperature of -30 to 100 °C and 30-90% second polymer obtained from 70-99% co-monomer, 0.5-7% anionic monomer that is phosphorous acid monomer, and 1-20% crosslinking monomer. It is calculated that the ratio of first polymer to second polymer is 1/0.43 to 1/9. Further, it is calculated that the second polymer contains 10% (0.5/5) of the amount of phosphorus acid monomer contained in the first polymer (col.1, lines 9-15, col.1, line 61-col.2, line 8, col.4, lines 18-20, col.5, lines 36-64, col.6, lines 4-16, 37-39, and 40-52, col.7, lines 1-8, col.9, lines 43-46 and 51, and col.10, line 63). It is noted that the water-soluble polymer of Edwards et al. does not contain second phosphorous acid groups and thus, clearly the ratio of equivalents of second phosphorous acid groups to equivalents of first phosphorous acid groups is less than 1.5 as presently claimed.

It is noted that the amount of multistage polymer particles disclosed by Edwards et al. are in wt.% while the present claims require the amounts in vol.%. However, given the broad range of polymer particles presently claimed, and absent evidence to the contrary, it is clear that the amount of multistage polymer particles disclosed by Edwards et al. would fall within the presently claimed ranges.

In light of the above, it is clear that Edwards et al. anticipate the present claims.

Art Unit: 1714

9. Claims 18-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Rosano et al. (U.S. 6,890,983).

Rosano et al. disclose pigmented polymer composition comprising organic pigment, i.e. phthalo blue, and polymer particles comprised of polymerized units of phosphorous acid monomer and having first phosphorous acid groups wherein the polymer is prepared by emulsion polymerization at pH of 1-2. The polymer possesses glass transition temperature of -50 to 100 °C. (col.1, lines 9-11, col.2, lines 1-7, col.3, lines 22-31, col.3, line 65-col.4, line 35, col.7, lines 39-42, col.8, lines 15-37, col.10, line 32, and col.14, lines 35-50 and 60-64).

In light of the above, it is clear that Rosano et al. anticipate the present claims.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims 1-4, 6, 8-10, and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edwards et al. (U.S. 7,101,921).

Edwards et al. disclose polymer composition comprising 0-85 vol.% pigment including organic pigment and inorganic pigment and 10-70 wt.% core-shell polymer comprising 10-70% first polymer that is obtained from 85-99.9% co-monomer, 0.1-5% anionic monomer that is phosphorous acid monomer, and 0.1-10% multiethylenically unsaturated monomer and possessing glass transition temperature of -30 to 100°C and 30-90% second polymer obtained from 70-99% co-monomer, 0.5-7% anionic monomer that is phosphorous acid monomer, and 1-20% crosslinking monomer. It is disclosed that the polymer is formed utilizing emulsion polymerization at pH of 2-6. It is calculated that the second polymer contains 10% (0.5/5) of the amount of phosphorus acid monomer contained in the first polymer (col.1, lines 9-15, col.1, line 61-col.2, line 8, col.4, lines 18-20, col.5, lines 36-64, col.6, lines 4-16, 37-39, and 40-52, col.7, lines 1-8, col.9, lines 43-46 and 51, and col.10, line 63). It is noted that the amount of multistage polymer particles disclosed by Edwards et al. are in wt.% while the present claims require the

amounts in vol.%. However, given the broad range of polymer particles presently claimed, and absent evidence to the contrary, it is clear that the amount of multistage polymer particles disclosed by Edwards et al. would fall within the presently claimed ranges.

The difference between Edwards et al. and the present claimed invention is that Edwards et al. disclose preparing the polymer using emulsion polymerization at pH of 2 while the present claims require pH less than 2.

It is apparent, however, that the instantly claimed pH, i.e. "less than 2" which clearly encompasses values such as 1.99, 1.95, etc., and that taught by Edwards et al., i.e. 2, are so close to each other that the fact pattern is similar to the one in *In re Woodruff*, 919 F.2d 1575, USPQ2d 1934 (Fed. Cir. 1990) or *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed.Cir. 1985) where despite a "slight" difference in the ranges the court held that such a difference did not "render the claims patentable" or, alternatively, that "a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough so that one skilled in the art would have expected them to have the same properties".

In light of the case law cited above and given that there is only a "slight" difference between the pH disclosed by Edwards et al. and the pH disclosed in the present claims, it therefore would have been obvious to one of ordinary skill in the art that the pH disclosed in the present claims is but an obvious variant of the amounts disclosed in Edwards et al., and thereby one of ordinary skill in the art would have arrived at the claimed invention.

Response to Arguments regarding double patenting rejection of record

13. Applicants traverse the double patenting rejection. Applicants argue that Dersch et al. fails to meet the instantly claimed recited ratio of equivalents of second phosphorous acid groups to equivalents of first phosphorous acid groups of less than or equal to 1.5 or polymerization at pH of less than 2.

However, it is noted that Dersch et al. is not used to teach ratio of equivalents of second phosphorous acid groups to equivalents of first phosphorous acid groups or emulsion polymerization at pH less than 2. These limitations are already taught by Brown et al. Dersch et al. is used for its teaching of organic colored pigment .

Applicants also argue that Brown et al. and the instant application are commonly owned at the time the invention was made.

However, while the statement of common ownership overcomes the rejections with respect to the double rejection as set forth in paragraphs 6-8 of the office action mailed 12/1/06, such statement does not overcome the double patenting rejection as set forth in paragraphs 2-3 above (see MPEP page 800-16).

Response to Arguments regarding 102 and 103 rejections of record

14. Applicants' arguments filed 5/1/07 have been fully considered but they are not persuasive.

Specifically, with respect to the rejections of record utilizing Ma et al., Dersch et al., and Edwards et al., it is noted that previously, the examiner argued that each of Ma et al., Dersch et al., and Edwards et al. were relevant references against the present claims under 35 USC 102

given that each reference meets the requirements in the present claims that the composition comprises a level of water-soluble polymer having second phosphorous acid groups defined by the ratio of equivalents of second phosphorous acid groups to equivalents of first phosphorous acid groups in the range less than or equal to 1.5.

In response, applicants filed 1.132 declaration on 4/4/07. The examiner argued that the declaration was not persuasive for the reasons set forth in the Advisory Action mailed 4/20/07.

Applicants have now filed new 1.132 declaration on 5/1/07.

However, it is the examiner's position that the new 1.132 declaration is not persuasive given that the declaration is not commensurate in scope with the scope of Dersch et al.

Specifically, it is noted that the resulting polymer dispersion of Dispersion D1 of Dersch et al. has 58.2% solids while the resulting polymer dispersion in the declaration has solids of 56.5%. It is not clear why there is a difference in the solids content of the polymer dispersion of the declaration and the polymer dispersion of Dersch et al. Additionally, it is noted that in the Dispersion D1 of Dersch et al. following polymerization, the pH is adjusted to 7.3 while in the declaration the pH is adjusted to 7.4.

With respect to the solid content, applicants argue that one skilled in the art would recognize that the solids of an emulsion sample does not affect the determination of the ratio of equivalents of second phosphorous acid groups to equivalents of first phosphorous acid groups. As evidence to support this position, applicants point to the calculation set forth on page 6 of the declaration filed 4/20/07 and note that since the amount of emulsion solids is present in both the denominator and numerator of the calculation, the amount of emulsion solids is irrelevant.

However, while it is seen that the amount of solid is utilized to determine “weight of polyvinyl phosphonic acid charged in 22.9 g of polymer emulsion” and “weight emulsion polymer that contains 10 g of serum”, it is not clear where the solids content cancels out as being both part of the denominator and the numerator. Clarification is requested.

Applicants also argue that the ratio of equivalents of second phosphorous acid groups to equivalents of first phosphorous acid groups is determined during polymerization process and not by solids content of the emulsion and further that the difference in solids between dispersion D1 of Dersch et al. and that of the dispersion of the declaration is within normal standard deviation associated with emulsion polymerization.

However, applicants have provided no evidence to support the above positions. Further, it is noted that “the arguments of counsel cannot take the place of evidence in the record”, *In re Schulze*, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965). It is the examiner’s position that the arguments provided by the applicant regarding the amount of solids content must be supported by a declaration or affidavit. As set forth in MPEP 716.02(g), “the reason for requiring evidence in a declaration or affidavit form is to obtain the assurances that any statements or representations made are correct, as provided by 35 U.S.C. 24 and 18 U.S.C. 1001”.

With respect to the difference in pH, applicants argue that the difference in pH of 7.3 and 7.4 is indistinguishable and that while the pH affects the amount of phosphorous acid monomer incorporated into the latex particle versus the water-soluble polymer during polymerization, adjustment of the pH after polymerization is complete does not affect determination of the instantly recited ratio of equivalents of second phosphorous acid groups to first phosphorous acid groups.

However, applicants have provided no evidence to support the above positions. Further, it is noted that “the arguments of counsel cannot take the place of evidence in the record”, *In re Schulze*, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965). It is the examiner’s position that the arguments provided by the applicant regarding the pH must be supported by a declaration or affidavit. As set forth in MPEP 716.02(g), “the reason for requiring evidence in a declaration or affidavit form is to obtain the assurances that any statements or representations made are correct, as provided by 35 U.S.C. 24 and 18 U.S.C. 1001”.

Further, it is the examiner’s position that the declaration is not persuasive with respect to Edwards et al. given that the teachings of Edwards et al. and Dersch et al. are not sufficiently similar to each other that establishing that the polymer of Dersch et al. does not meet the presently claimed ratio of equivalents of second phosphorous acid groups to equivalents of first phosphorous acid groups also establishes that the polymer of Edwards et al. does not meet this ratio. This is especially significant given that Edwards et al. discloses a multistage polymer prepared by emulsion polymerization wherein the pH is less than 8 (i.e. encompasses pH less than 2) and thus the process for making the polymer of Edwards et al. would necessarily be different than the process used to make the polymer of Dersch et al. Additionally, it is noted that there is no disclosure in Edwards et al. that the polymer is obtained from vinyl phosphonic acid monomer as is the polymer of Dersch et al. Thus, the polymer of Dersch et al. set forth in the declaration is outside the scope of Edwards et al. Such differences, i.e. different type of monomer and different type of polymer, would effect the ratio of equivalents of second phosphorous acid groups to equivalents of first phosphorous acid groups. Applicants have not

shown that a multistage polymer as disclosed by Edwards et al. does not possess the ratio of equivalents of second phosphorous acid groups to equivalents of first phosphorous acid groups as presently

Applicants argue that given that Edwards et al. do not provide examples with phosphorous acid monomers, it is improper to require comparison of the invention of the instant claims to any embodiment not actually disclosed in the art.

However, although there are no examples in Edwards et al. of presently claimed polymer, a fair reading of the reference as a whole clearly discloses 10-70 wt.% core-shell polymer comprising 10-70% first polymer that is obtained from 85-99.9% co-monomer, 0.1-5% anionic monomer that is phosphorous acid monomer, and 0.1-10% multiethylenically unsaturated monomer and possessing glass transition temperature of -30 to 100°C and 30-90% second polymer obtained from 70-99% co-monomer, 0.5-7% anionic monomer that is phosphorous acid monomer, and 1-20% crosslinking monomer. Thus, it is clear that Edwards et al. do disclose polymer as presently claimed.

Applicants also argue that col.6, lines 40-60 of Edwards et al. discloses that the reference only utilizes convention emulsion polymerization.

However, attention is drawn to col.8, lines 48-49 of Edwards et al. which discloses that the pH of the emulsion polymerization to prepare the first polymer or second polymer is less than 8, preferably 2-6. Thus, unlike Dersch et al., Edwards et al. do disclose pH at which emulsion polymerization is conducted. This appears to be closer to the presently claimed emulsion polymer process than that of Dersch et al. that does not disclose pH during polymerization.

Applicants also argue that dispersion D1 of Dersch et al. is polymerized over a second polymer meaning that dispersion D1 of Dersch et al. is chemically indistinguishable from two-stage polymerization process of Edwards et al.

However, neither the first nor second polymer of Edwards et al. includes polystyrene so such polymer as disclosed in dispersion D1 of Dersch et al. would be outside the scope of Edwards et al.

Applicants also argue that the phosphorous acid monomers in a first stage monomer emulsion do not get a second chance for incorporation during second stage polymerization and that phosphorous acid monomers added in the second stage monomer emulsion experience no different scenario to that of a one-stage polymerization.


However, given that both the first and second polymers of Edwards et al. utilize phosphorous acid monomers as the anionic monomer, it would appear, given that as argued by applicants the second stage monomer emulsion experience is no different than that of one stage polymerization, the use of such phosphorous monomer in the second polymer would contribute to the water-soluble polymer.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Callie E. Shosho
Primary Examiner
Art Unit 1714

CS

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